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STIBIANITE, A NEW MINERAL.

BY E. GOLDSMITH.

In the Academy's collection I noticed a mineral without a name, but having on its label the words "Victoria, Australia." On inquiry, I received the information from the Curator in charge that said specimen had been presented by the Australian Centennial Commission.

The mineral is massive, having the general aspect of a piece of rough feldspar. It is somewhat porous, and occasionally a shining face of a crystal is observed in the mass. The color is reddish-yellow, but not very uniform. In powder, it is pale yellow; its lustre is dull.

Hardness = 5.

Specific gravity = 3.6686.

Blowpipe reactions: On coal, with carb. of soda, it affords antimony, a white incrustation, and on the removal of the flame, the peculiar ascending cloud.

Phosphorsalt dissolves it without any coloration in the oxidizing and reducing flame.

Heated in a tube closed at one end it affords some water. Hydrochloric acid, aqua regia, caustic potassa, and sulphide of ammonium dissolve the antimony compound, but not the gangue. The solution of the substance in caustic potassa indicated, on the addition of a solution of nitrate of silver, the absence of antimonious acid. A solution of sulphate of copper shows, on the other hand, the presence of antimonious acid. The solution formed in hydrochloric acid afforded, on the addition of iodide of potassium, a strong liberation of iodine. All these reactions are proofs that the antimony is in its highest state of oxidation; that is to say, the mineral contains only antimonious acid = SbO^5 .

Quantitative analysis, 0.6227 grm. lost on heating the substance below a red heat, 0.0287 gram. = 4.60 per cent. of water.

Mr. W. H. Dougherty determined the water as	4.46 per cent.
He also ascertained the amount of gangue to be	13.55 " "
and the antimonious acid, from SbO^4 , to be	81.21 " "
	<hr/> 99.22

It is evident from these ascertained values that the purity of the mineral is not more than 85.67 per cent., and on recomputing this value to hundred, will give for

$\text{SbO}^s = 94.79$ per cent. contains $\text{O} = 23.40$.

$\text{HO} = 5.21$ “ “ “ $\text{O} = 4.62$.

The oxygen ratios are: $4.62 : 23.40 = 1 : 5.06$, from which the formula SbO^sHO is derived.

It is generally believed, and probably with good reason, that those oxides of antimony were derived from stibnite, which may also be the case in this instance, as a small patch of stibnite was noticed on the specimen examined.